



HRS&D

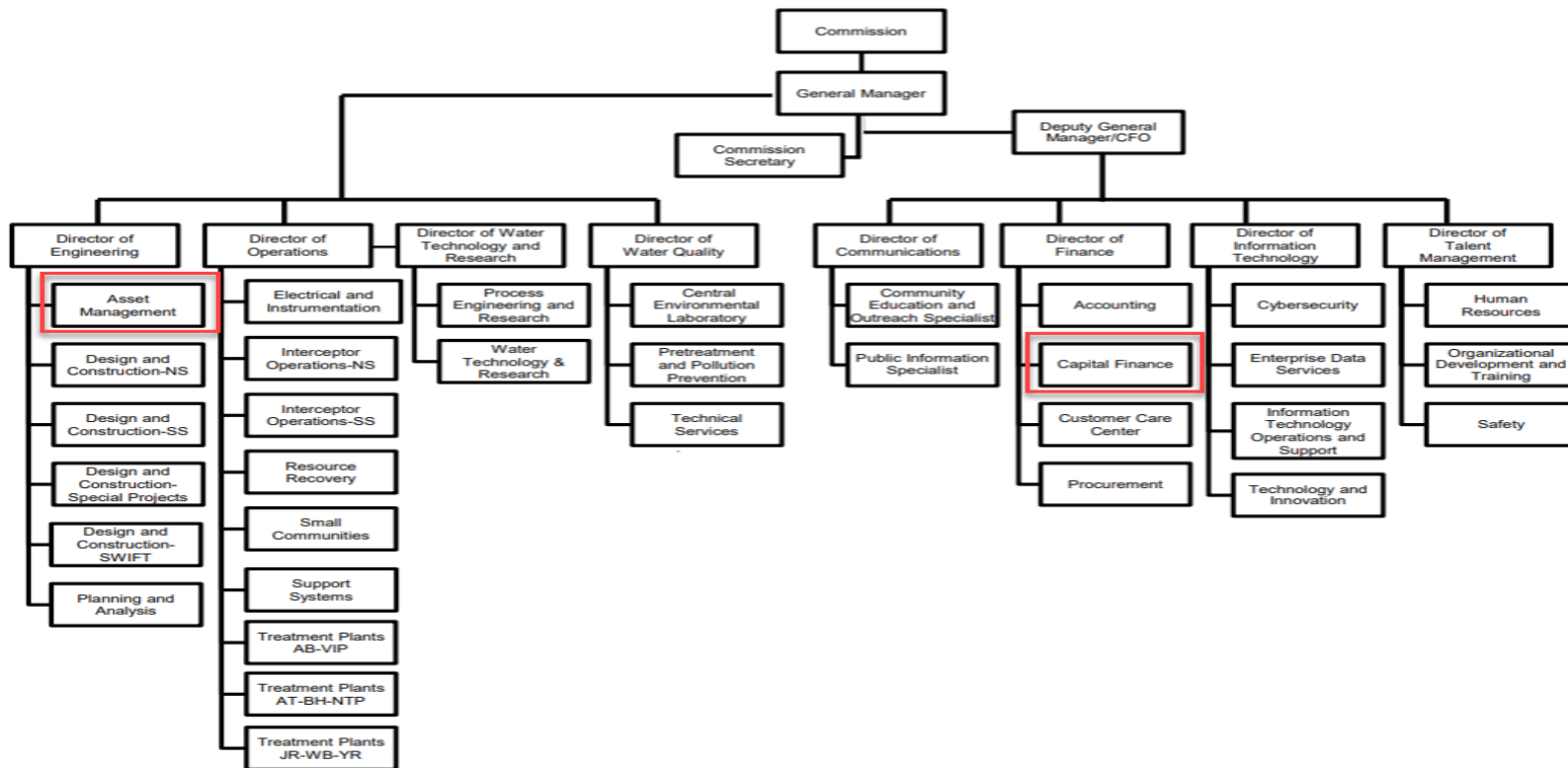
Capital Project Prioritization
Strategies

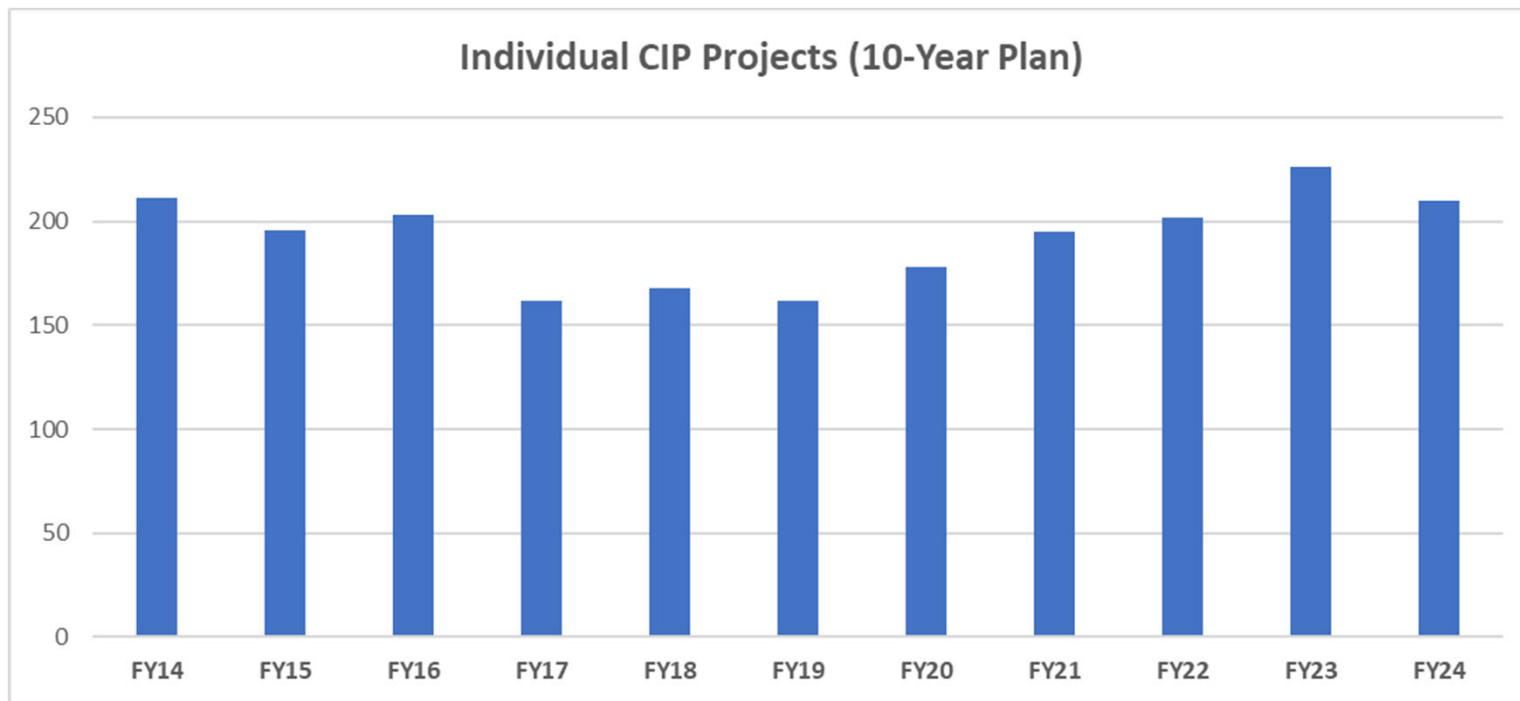
November 14, 2023

- Serve 20 communities, ~5,000 square miles
- 132MGD Treated Wastewater
- 5000+ miles of Interceptor
- 905 Employees
- FY24 OPEX - \$207M
- AA+ Credit (S&P), AA1 (Moody)

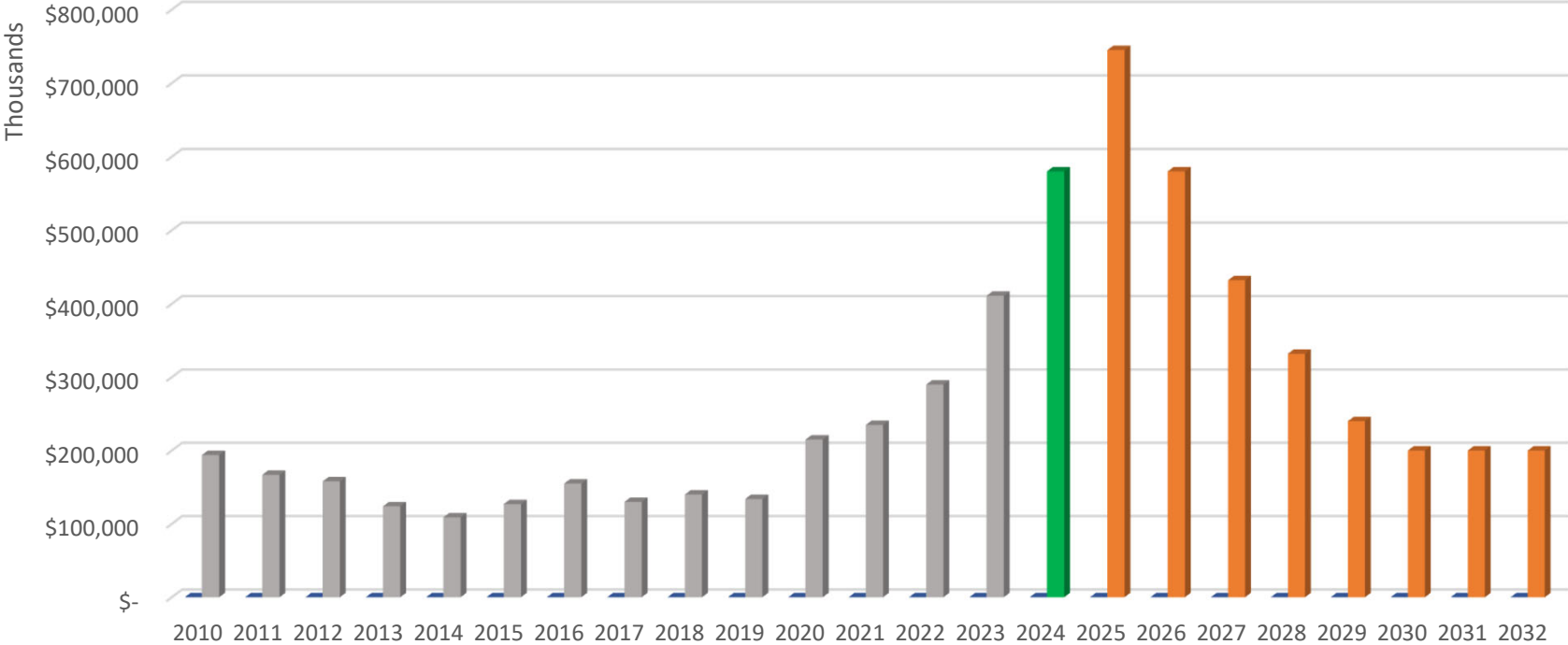


HRSD Organization Chart
July 1, 2023





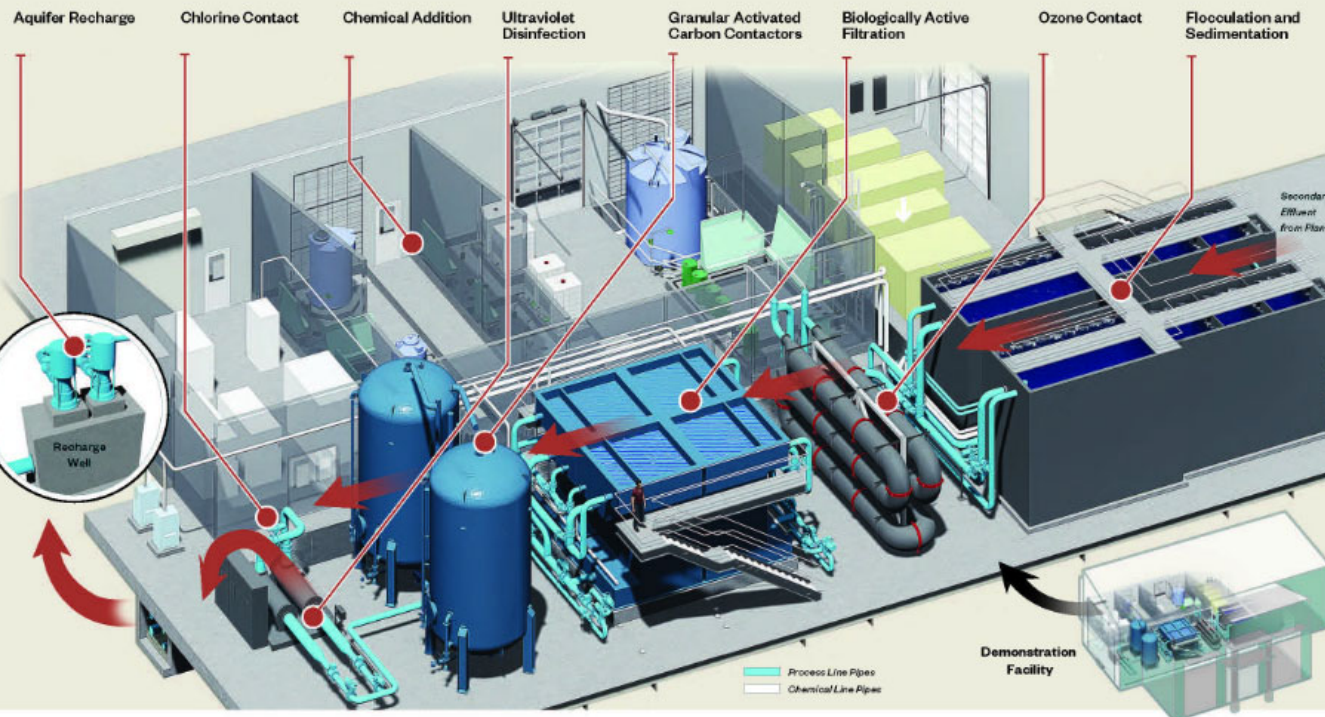
Historical and Future CIP Projections



What Is SWIFT?

Advanced Water Treatment Process

Highly treated water from the Nansmond Treatment Plant is pumped to the Research Center's advanced treatment facility where it undergoes an 8-step process to prepare the water for recharge of the aquifer.



The Potomac aquifer is a proven storage vessel for trillions of gallons of pressurized water. SWIFT engineers and scientists simply aim to replace what is being removed.

HRSD's Integrated Plan

2021 2022 2023 2024 **2025** 2026 2027 2028 2029 **2030** 2031 **2032** 2033 2034 2035 2036 2037 2038 2039 **2040 - 2043**

\$700M Phase 1,
Rehab Action Plan



Dgdswh# jw

\$208M High Priority 1

-47%
SSO

\$202M High Priority 2

-69%
SSO



>\$1B

Aquifer Replenishment Program (ARP)

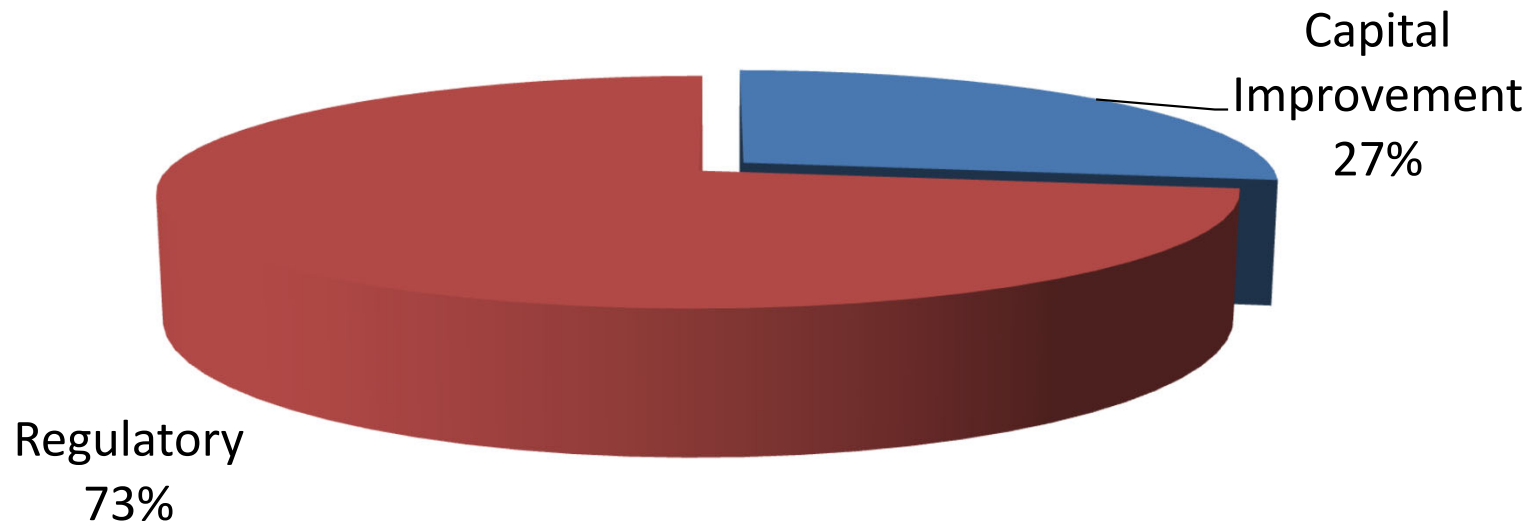
\$20M Microbial Source Tracking

\$2M Post Construction Monitoring



The compliance objective is a 69 percent or greater reduction in baseline modeled SSOs by volume for the 5-year peak flow recurrence event

FY24 to FY33 Program - Regulatory Driven Projects



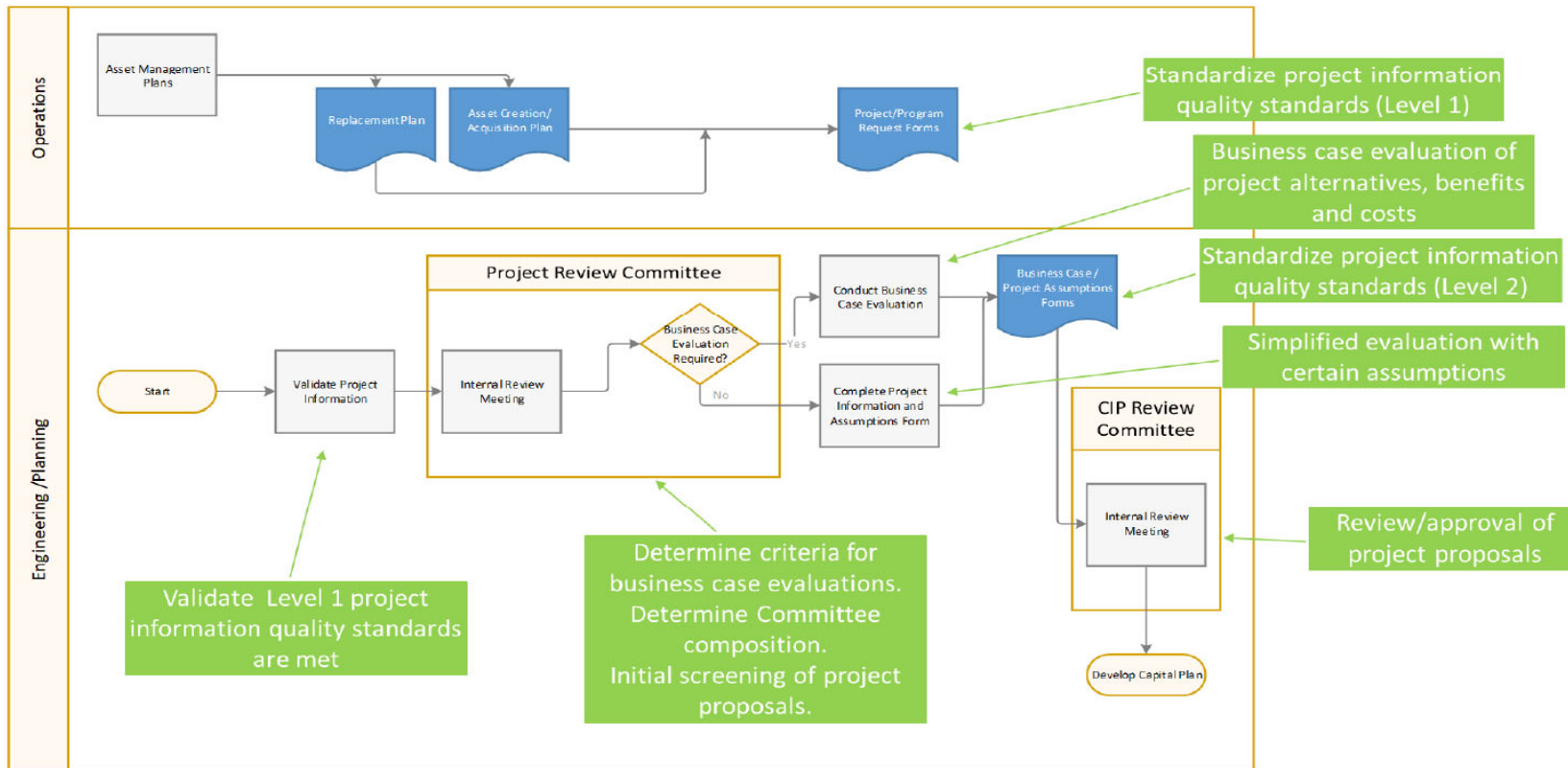
- Based on organizational values
- Includes triple bottom line concepts (social, economic, environmental)
- Used for justification and scheduling

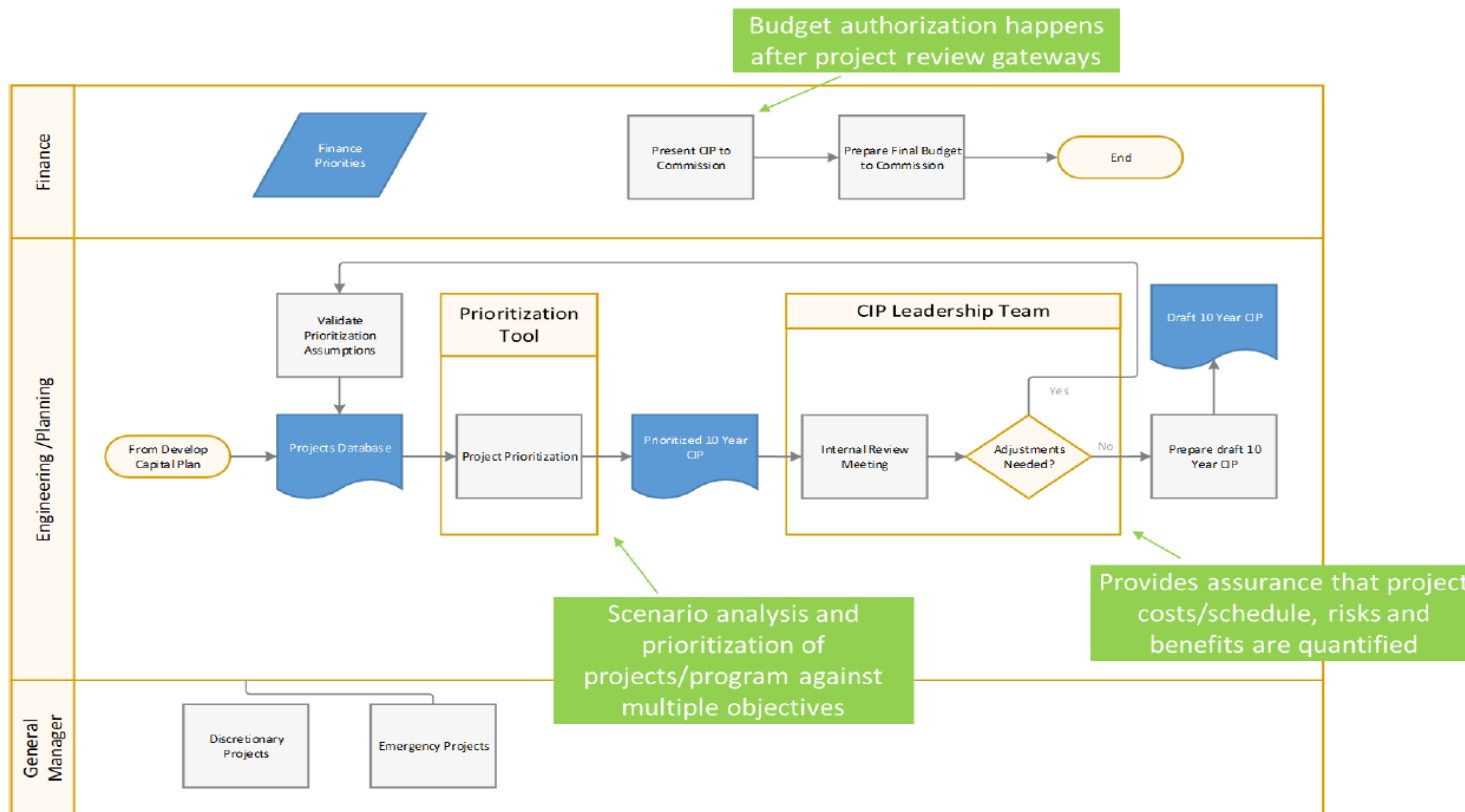
1. Safety
2. Regulatory
3. Reliability/Risk
4. Capacity
5. Community Impacts
6. Net O&M Savings
7. Customer Service
8. Coordination
9. Sustainability
10. Implementability

CIP Prioritization Output

CIP Prioritization Sorted by Score			1. Safety	2. Regulatory	3. Risk/Reliability	4. Capacity	5. Community Impact	6. Net O&M	7. Customer Service	8. Coordination w/Other Projects	9. Sustainability	10. Implementability	Total Raw Score	Weighted Score
CIP Number	Project Name:													
JR-101 CD2	Center Avenue Pump Station Service Area I/I Remediation	Ryan Brewster	0	8	10	10	7	2	10	7	0	5	59	62
BH-116 CD1	Bridge Street Pump Station Replacement/Rehabilitation	Ryan Brewster	0	8	10	10	6	2	8	10	0	5	59	61
NP-118 CD2	Holland Road 24-Inch Interceptor Force Main – Section A	Tim Marsh	0	8	10	10	10	0	8	0	0	10	56	58
JR-124-1	Morrison Pump Station Interim Improvements	Chris Stephan	0	8	10	10	7	2	8	0	0	10	55	57
BH-130	Willard Avenue Pump Station Upgrades	Ryan Brewster	0	8	10	10	7	2	8	0	0	5	50	56
GN-128 CD1	Interceptor Systems Pump Station Control and SCADA Upgrades and Enhancements	Phil Hubbard	0	8	6.7	10	7	6	5	7	0	0	50	54
VIP-153 RP2	Larchmont Area Pump Station Replacements	Bambos Charalambos	0	8	10	10	0	2	5	7	0	5	47	53
BH-120 CD2	Hampton Trunk Sewer Extension Division E Gravity Replacement	Ryan Brewster	0	8	7.5	10	7	2	8	2	0	5	50	53
JR-117-1A CD2	Jefferson Avenue Interceptor Force Main Replacement Phase I	Ryan Brewster	0	8	7.5	10	7	0	5	7	0	5	50	52
JR-117-1B CD2	Jefferson Avenue Interceptor Force Main Replacement Phase IB	Feb 1 2013 12:00AM	0	8	7.5	10	7	0	5	7	0	5	50	52

- Development of project information (justification, scope, cost and schedule) for better cost certainty and needs justification
- Developing project information and screening throughout the year to reduce end of year rush
- Collaborative process for consistent approach
- Quantification of project costs, risks and benefits allows data informed project reviews
- Multiple review gateways before CIP development and budget commitment
- Ability to develop long term (beyond 10 years) forecasts





Likelihood vs Consequence

Ranking	Low Score	High Score	Definition
Very High	5	5	Event will occur within a year
High	4	4	Event will occur at least once every 1-5 years
Medium	3	3	Event will occur at least once every 6-15 years
Low	2	2	Event will occur at least once every 16-50 years.
Very Low	1	1	Event will occur at least once every 51-100+ years.
NA	0	0	NA

Ranking	Score Range		Environmental Impact and Regulatory Compliance		Community and Organization		Safety (Public & Employee)	Financial Impact
	Low	High	Compliance	Environment	Public Health	Reputation, Customer Perception & Community Impact		
	SEVERE	5	5	Past history of violation or strong potential for major enforcement action and fines	Discharge that will have a prolonged, widespread environmental impact	Serious likelihood of public exposure that results in population illness		
MAJOR	4	4	Violation with potential for major enforcement actions and fines	Discharge that will have a short-term, widespread environmental impact	Moderate to serious likelihood of public exposure	Public council and/or media complaints; (media reporting limited to a daily news	Major injury requiring hospitalization	Exceeds the 150-day (5 month) reserve
SIGNIFICANT	3	3	Violation with potential for minor enforcement action	Discharge that will have a prolonged, localized environmental impact	Moderate likelihood of public exposure	Localized public complaints (e.g. community groups and committees),	Moderate injury requiring medical treatment	Exceeds the 90-day (3 month) reserve
MODERATE	2	2	Violation without an enforcement action	Discharge that will have a short-term, localized environmental impact	Low to moderate likelihood of public exposure	Limited public complaints (couple of individuals). No media coverage	Minor injury requiring first aid	Exceeds the 30-day (one month) reserve
Low	1	1	100% compliance with permits and regulations	Little to no impact on environment	Low likelihood of public exposure	Little to no impact to reputation and customer perception. No media coverage	Little or no impact to human safety	Can be covered by reorganizing existing budgets and dipping into our 30-day
NA	0	0	NA	NA	NA	NA	NA	NA

Risk ID	Project Details				Current Funding	Current Funding Optimized	
	Risk Name	Regulatory Type	Capital Costs	Risk Reduction Ratio	Install Year (FY)	Install Year (FY)	Schedule Impact Current CIP
PR_AT013300	Process	None	\$ 3,200,000	473.8	2020	2020	No Change
PR_AT013700	Atlantic Trunk Interceptor Force Main Relocation (VDOT Laskin Road Betterment)	None	\$ 150,000	6.4	2020	2020	No Change
PR_AT013900	Atlantic Treatment Plant Influent Screen Expansion	None	\$ 970,000	323.3	2020	2020	No Change
PR_AT014000	Lynnhaven-Great Neck IFM (SF-021) Relocation	None	\$ 1,270,000	0.0	2020	2035	Delayed 15 Years
PR_AT014100	Suffolk Regional Landfill Transmission Force Main	None	\$ 13,240,000	2338.2	2020	2020	No Change
PR_AT014301	Atlantic Service Area I-I Reduction Phase I (CHES)	Integrated Plan-HPP	\$ 10,970,000	1058.8	2024	2026	Delayed 2 Years
PR_AT014302	Atlantic Service Area I-I Reduction Phase II (CHES)	Integrated Plan-HPP	\$ 9,340,000	865.2	2022	2026	Delayed 4 Years
PR_AT014303	Chesapeake Pump Station Capacity Improvements (AT-HPP-01C)	Integrated Plan-HPP	\$ 850,000	182.2	2027	2026	Accelerated 1 Years
PR_AT014500	Atlantic Treatment Plant Influent Screens (1-3) Replacement	None	\$ 3,440,000	0.0	2021	2020	Accelerated 1 Years
PR_BH013020	Willard Avenue Pump Station Replacement	None	\$ 9,390,000	820.4	2020	2021	Delayed 1 Years
PR_BH014000	West Avenue and 35th Street Interceptor Force Main Replacement	Rehab Plan Phase Two	\$ 3,660,000	219.2	2020	2020	No Change
PR_BH014220	Hampton Trunk Sewer Extension Divisions I and J Relocation Phase II	None	\$ 14,630,000	766.9	2020	2021	Delayed 1 Years
PR_BH014500	Ivy Home-Shell Road Sewer Extension Division I Replacement	Rehab Plan Phase Two	\$ 2,010,000	1088.5	2021	2020	Accelerated 1 Years
PR_BH014600	Great Neck Interceptor Force Main Abandonment	None	\$ 1,620,000	0.0	2021	2020	Accelerated 1 Years
PR_BH014600	46th Street Diversion Sewer Rehabilitation Replacement	Rehab Plan Phase Two	\$ 11,090,000	3889.3	2020	2020	No Change

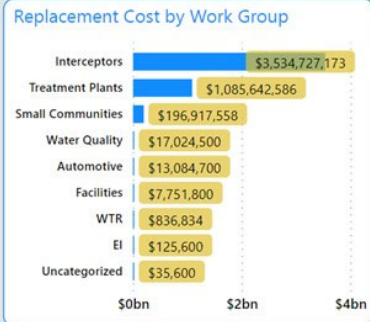


Asset Management Plan

"Making the Right Investment at the Right Time"

If you have any questions, please contact [Power BI Support](#) or [AMP Support](#)

- HRSD**
- Treatment Plants
- Small Communities
- Automotive
- Facilities
- Interceptors



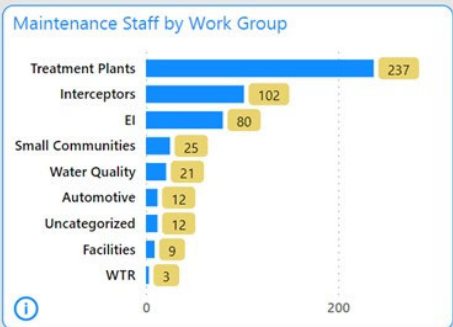
74,912
Asset Count

\$4,856,146,350
Replacement Value

493
Maintenance Staff Count

Risk Profile

Risk Level	Replacement Value	Asset Count
Severe	\$8,264,362	8
High	\$140,975,894	551
Medium	\$2,767,901,768	13,587
Low	\$1,580,877,493	23,012
Total	\$4,498,019,518	37,158

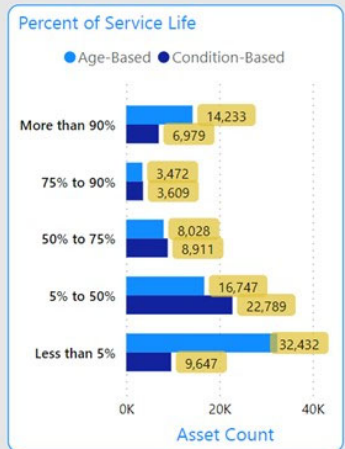
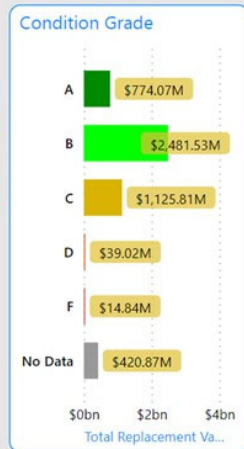


National Condition Score: **D+**

HRSD Condition Score: **B**

Average Condition Score by Work Group

Work Group	Grade	Score
Interceptors	B	1.67
Treatment Plants	B	1.76
Small Communities	B	1.81
HRSD Avg Condition Score	B	1.70



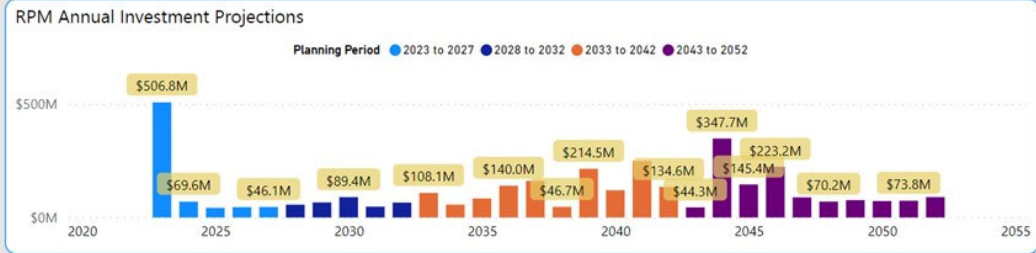
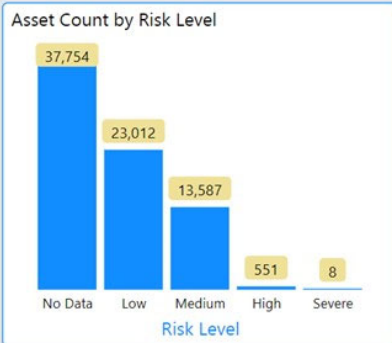


Renewal Planning Model

[RPM Procedure Manual](#)
[Condition Assessment Manual](#)

If you have any questions, please contact [Power BI Support](#) or [AMP Support](#)

% of Assets with Risk Scores
49.60%



Right Click in the table to drill to Asset Explorer report

Replacement Year	Asset Code	Description	Class	Manufacturer	Work Center	CoF Score	LoF Score	Risk Level	Asset Age	Effective Age	Service Life	Maintenance / Replacement	Replacement Cost
2053	131677	SF-268-6980 / 306 LF / 30" DIP / Elizabeth River Crossing - Land Portion (Water*)	MAIN		South Shore Interceptors	4	4	Severe	20	20	50	0.04%	
2041	135374	SF-175-12063 / 1049 LF / 54" PCCP / Dam Neck Force Main	MAIN		South Shore Interceptors	4	4	Severe	47	47	65	0.00%	\$2,223,962
2041	136930	SF-175-9261 / 418 LF / 54" PCCP / Dam Neck Force Main	MAIN		South Shore Interceptors	4	4	Severe	47	47	65	0.01%	\$1,084,893
2041	138372	SF-027-6674 / 324 LF / 36" DIP / Bowers Hill Inter FM Section I	MAIN		South Shore Interceptors	4	5	Severe	32	32	50	2.01%	\$561,286



Questions?

Erin Girardi

egirardi@hrsd.com